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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/555,488	05/31/00	YU H	RCA 88692

WM02/1011

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EXAMINER	
YENKE, B	
ART UNIT	**PAPER NUMBER**
2614	

DATE MAILED: 10/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/555,488	YU ET AL.	
	Examiner	Art Unit	
	BRIAN P. YENKE	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16-17 and 23-27 are rejected under 35 U.S.C. 102(b) as being anticipated by **Faroudja, US 5,754,248**.

In considering claims 16-17 and 23-27,

1) the claimed adaptively filtering...**is met by Vertical LPF 20 (Fig 5) (col 8, line 4-10)**

2) the claimed converting said filtered signal to a lower resolution...**is met by downconverter 22 (Fig 5) (col 8, line 10-18)**

3) the claimed MPEG encoding...**is met by compressor 24 (Fig 5) (col 8, line 18-26, col 6, line 30-34)**

4) the claimed conveying said encoded signal to an output channel **is met where the output of encoder (LPF, downconverter and compressor) provides the output video data which is processed by the decoder (Fig 8)**

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Faroudja US 5,754,248 in view of Legall et al., US 5,049,993.**

In considering claims 1-10 and 13-14,

a2/b1) the claimed adaptively filtering... **is met by Vertical LPF 20 (Fig 5) (col 8, line 4-10)**

a4/b2) the claimed converting said filtered signal to a lower resolution... **is met by downconverter 22 (Fig 5) (col 8, line 10-18)**

a5/b3) the claimed MPEG encoding... **is met by compressor 24 (Fig 5) (col 8, line 18-26, col 6, line 30-34)**

a6/b4) the claimed conveying said encoded signal to an output channel **is met where the output of encoder (LPF, downconverter and compressor) provides the output video data which is processed by the decoder (Fig 8)**

However, Faroudja does not specifically disclose converting the first video signal to a different format (a1) and then reconverting the filtered signal to the original format (a3).

Faroudja discloses a system which records or transmits motion picture film sources and non-film interlaced or progressively scanned video sources, any one of several standards (e.g., NTCS, PAL, HDTV/ATV, etc) (col 1, line 6-16).

Legall et al., teaches converting a video sequence of a high resolution interlaced format to a video sequence of a lower resolution progressive format (col 1, line 6-10). Legall teaches due to bandwidth limitations in the telecommunications network, it is desirable to compress a video sequence to be transmitted.

Therefore, it would have been obvious to one skilled in the art to recognize that Faroudja with discloses transmitting signal of various standards would have been motivated by Legall to convert an interlaced signal to a progressive to reduce the bandwidth of the transmitted signal and then to reconvert the signal to the original format for encoding.

In considering claims 11-12 and 15,

However Faroudja does not specifically disclose the claimed converting said filtered signal to a lower resolution signal having a resolution of 1280 x 1080 samples per frame. **Faroudja discloses a downconverter 22 (Fig 5) (col 8, line 10-18) which may downconvert the received signal to 525 or 626 lines or other formats depending on the source and the display being used (col 2, line 37-42).**

Kim discloses the background for the MPEG-2 standard, where the MP@HL standard may have as many as 1,152 active lines per image frame and 1,920 pixels per line and the MP@ML standard which defines a maximum picture size of 720 pixels per line and 567 lines per frame. Kim also discloses the standard proposed for the US (subset of MP@ML) can have as many as 1,080 lines per frame, and 1,920 pixels per line (col 1, line 45-54).

Therefore, it would have been obvious to one skilled in the art to recognize that Faroudja system which uses the MPEG-2 standard which has a maximum limit to the number of lines/pixels per line could possess less lines/pixels per line than the standard, depending on the type of signal received and display used in performing compression/decompression of the received signal.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Faroudja, US 5,754,248** in view of **Kim, US 5,926,573**.

1) the claimed adaptively filtering...**is met by Vertical LPF 20 (Fig 5) (col 8, line 4-10)**

3) the claimed MPEG encoding...**is met by compressor 24 (Fig 5) (col 8, line 18-26, col 6, line 30-34)**

4) the claimed conveying said encoded signal to an output channel **is met where the output of encoder (LPF, downconverter and compressor) provides the output video data which is processed by the decoder (Fig 8)**

However Faroudja does not specifically disclose the claimed converting said filtered signal to a lower resolution signal having a resolution of 1280 x 1080 samples per frame. **Faroudja discloses a downconverter 22 (Fig 5) (col 8, line 10-18) which may downconvert the received signal to 525 or 626 lines or other formats depending on the source and the display being used (col 2, line 37-42).**

Kim discloses the background for the MPEG-2 standard, where the MP@HL standard may have as many as 1,152 active lines per image frame and 1,920 pixels per line and the MP@ML standard which defines a maximum picture size of

720 pixels per line and 567 lines per frame. Kim also discloses the standard proposed for the US (subset of MP@ML) can have as many as 1,080 lines per frame, and 1,920 pixels per line (col 1, line 45-54).

Therefore, it would have been obvious to one skilled in the art to recognize that Faroudja system which uses the MPEG-2 standard which has a maximum limit to the number of lines/pixels per line could possess less lines/pixels per line than the standard, depending on the type of signal received and display used in performing compression/decompression of the received signal.

Claims 19-22 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lim, US 5,444,491** in view of **Kim, US 5,926,573**.

1) the claimed decoding said signal to produce a decoded signal...**is met by receiver 12 (Fig 1) where channel decoder 34 outputs image information to image decoder 36 and transmission format identification to decoder 38 (col 6, line 1-15)**

2) the claimed determining the image resolution...**is met by image decoder 36 (Fig 1)**

4) the claimed conveying said converted signal to an output device **is met by format transformation means 40 which supplies the transformed image to display 42 (col 6, line 5-10)**

However, Lim does not specifically disclose a 1280x1080 format. Lim discloses a system which transmits/receives various transmission format (Table 1 and 2). Lim also discloses that the number of active lines of pixels in the transmission formats can vary from those listed in the Tables (col 8, line 30-34).

Lim discloses that various picture formats can be utilized by conserving the Number of pixels per second keeping the bandwidth within the 6MHz channel for HDTV. Lim discloses the use of HDTV (MPEG-2)but does not disclose the MPEG specification which details the maximum number of lines/pixels per line that can be used.

Kim et al., US 5,926,573 teaches that conventional MPEG transmission standard can have as many as 1080 lines and 1920 pixels per line.

Therefore, it would have been obvious to recognize Lim's system could Have as many as 1080 lines or could utilize less, and could also utilize less then The fully allotted 1920 pixels per line. This reduction in the maximum allotted lines/pixels would obviously reduce the number of transmitted bits and hence lower the bandwidth of the transmitted signal .

Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kim, US 5,926,573**.

In considering claims 28-29,

Kim discloses the background for the MPEG-2 standard, where the MP@HL standard may have as many as 1,152 active lines per image frame and 1,920 pixels per line and the MP@ML standard which defines a maximum picture size of 720 pixels per line and 567 lines per frame. Kim also discloses the standard proposed for the US (subset of MP@ML) can have as many as 1,080 lines per frame, and 1,920 pixels per line (col 1, line 45-54).

Therefore, it would have been obvious to one skilled in the art to recognize that a standard that has a limit to the number of lines/pixels per line could possess less lines/pixels per line, thus the maximum standard does not require images to have the maximum 1080 lines/1920 pixels per line.

In considering claim 30,

The examiner takes "OFFICIAL NOTICE" in regards to video information being broadcast satellite information. Video information may be received from many sources, i.e., VCR, Antenna, Cable, Satellite, Computer/PC etc... Therefore, it would have been obvious to one skilled in the art to recognize the video information is broadcast satellite information.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Deierling, US 6,239,847 discloses a two pass multi-dimensional programmable filter.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Yenke whose telephone number is (703) 305-9871. The examiner work schedule is Monday-Thursday, 0730-1830 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Reinhard J. Eisenzopf, can be reached at (703)305-4711.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-037

B.P.Y.

09 OCTOBER 2001

10-9-01

REINHARD J. EISENZOPF
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